

**DRAFT ENGINEERING EVALUATION REPORT**  
**QUALITY INVESTMENT PROPERTIES SANTA CLARA LLC**  
**PLANT #19010**  
**APPLICATION #30654**

This document is an Engineering Evaluation Report for the issuance of an Authority to Construct for the Quality Investment Properties Santa Clara LLC data center (“Facility”). This Report evaluates how the Facility will comply with all applicable requirements of Bay Area Air Quality Management District (BAAQMD) regulations, and it includes permit conditions that will ensure compliance. As explained herein, with these imposed permit conditions, the Facility is expected to comply with all applicable air quality regulatory requirements.

**BACKGROUND**

The applicant currently owns and operates a data center located at 2807 Mission College Blvd in Santa Clara, California.

At this time, the Applicant is applying for an Authority to Construct and Permit to Operate three (3) emergency backup power generators. The proposed diesel engines require an Authority to Construct and Permit to Operate per BAAQMD Regulation 2-1-301 and Regulation 2-1-302, respectively. The sources covered by this application for an authority to construct/permit to operate are identified as follows:

- S-15: Emergency Standby Generator Set: Diesel Engine, Make Caterpillar, Model C32, Model Year 2020, EPA Engine Family LCPXL32.0NZS, Rated 1821 BHP. Abated by A-15 Miratech LTRV36-36-12-XR1DOC/DPF. Emissions at P-15 Stack.**
- S-16: Emergency Standby Generator Set: Diesel Engine, Make Caterpillar, Model 3512C, Model Year 2020, EPA Engine Family LCPXL78.1NZS, Rated 2206 BHP. Abated by A-16: Miratech LTRV48-43-14-XR1 DOC/DFP. Emissions at P-16 Stack.**
- S-17: Emergency Standby Generator Set: Diesel Engine, Make Caterpillar, Model 3512C, Model Year 2020, EPA Engine Family LCPXL78.1NZS, Rated 2206 BHP. Abated by A-17: Miratech LTRV48-43-14-XR1 DOC/DFP. Emissions at P-17 Stack.**

The new generators are located within 1,000 feet of a K-12 school, and therefore this application is subject to the school public notice requirements of BAAQMD Regulation 2-1-412.

## **EMISSIONS SUMMARY**

Criteria pollutant emissions from the diesel engines that are the subject of this application are outlined below.

### ***SOURCE S-15***

#### **Annual Emissions:**

##### Basis

- 50 hours/year/engine operation for non-emergency, reliability-related activities
- Maximum power 1821 bhp output rating for full-load, standby operation per engine
- Engine displacement 32.101 Liters ÷ 12 cylinders = 2.7 liters/cylinder
- Rated 1800 RPM, constant speed
- The engines each have the EPA Engine Family Name and are certified to meet the EPA Tier 2 standards. Abated emission factors were calculated using the manufacturer's emission testing data submitted to EPA for certification along with the abatement device manufacturer guarantees (with CARB verification for PM10).

**Table 1A. Emission Factor Assumptions: S-15**

<b>Pollutant</b>	<b>Unabated Emission Factor<sup>1</sup> (g/kW-hr)</b>	<b>Emission Factor Unabated<sup>2</sup> (g/bhp-hr)</b>	<b>Abatement Device Efficiency<sup>3</sup> (%)</b>	<b>Abated Emission Factor<sup>4</sup> (g/bhp-hr)</b>
NOx	5.01	3.74	0%	3.74
CO	0.7	0.52	0%	0.52
POC	0.1	0.07	0%	0.07
PM10	0.06	0.04	85%	0.01

##### *References:*

1. *US EPA Annual Certification Database for Vehicles, Engines, and Equipment: Nonroad Compression Ignition Engines, NRCI Certification Data (Model Years: 2011-Present.xlsx), Certification Level Steady-State Discrete Modal Test Results.* <https://www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment>
2. Assume 1.341 hp/kw conversion factor.
3. *CO and POC abatement efficiencies per manufacturer guarantee submitted by applicant & PM abatement efficiency per CARB Executive Order DE-14-005-06 dated March 27, 2020.* (<https://www3.arb.ca.gov/diesel/verdev/vt/stationary.htm>).
4. *Abated emission factor = Unabated emission factor \* (1 – Abatement Device Efficiency %)*

- The emission factor for SO<sub>2</sub> is from Chapter 3, Table 3.4-1 of the EPA Document AP-42, Compilation of Air Pollutant Emission Factors, which is based on full conversion of fuel sulfur to SO<sub>2</sub> and which will therefore be considered applicable to any diesel engine (sulfur content will be assumed to be the California limit of 0.0015 wt% sulfur) is calculated as follows. Note that the standard AP-42 sulfur emission factor formula is multiplied by 5 because the sulfur content of the natural gas used to develop the AP-42 factor is based on 2000 grains/MMSCF (vs. sulfur content in PUC quality natural gas of 1 grain/100 SCF):

$$\text{SO}_2: 8.09\text{E-}3 \text{ (\% S in fuel oil) lb/hp-hr} * 5 = 8.09\text{E-}3 \text{ (0.0015\% S) (454 g/lb) (5)} \\ = \mathbf{0.03 \text{ g/hp-hr}}$$

**Table 1B. Calculated Annual Emissions: S-15**

NO <sub>x</sub>	=	(	3.74	g/hp-hr)	(	1821	hp)	(	50	hr/yr)	(lb/454g)	=	750.059	lb/yr	=	0.375	TPY
CO	=	(	0.52	g/hp-hr)	(	1821	hp)	(	50	hr/yr)	(lb/454g)	=	104.286	lb/yr	=	0.052	TPY
POC	=	(	0.07	g/hp-hr)	(	1821	hp)	(	50	hr/yr)	(lb/454g)	=	14.039	lb/yr	=	0.007	TPY
PM <sub>10</sub>	=	(	0.01	g/hp-hr)	(	1821	hp)	(	50	hr/yr)	(lb/454g)	=	2.006	lb/yr	=	0.001	TPY
SO <sub>2</sub>	=	(	0.03	g/hp-hr)	(	1821	hp)	(	50	hr/yr)	(lb/454g)	=	6.017	lb/yr	=	0.003	TPY

**Maximum Daily Emissions:**

Daily emissions are calculated to establish whether a source triggers the requirement for Best Available Control Technology (BACT) (10 lb/highest day total source emissions for any BACT pollutant). A full 24-hour day is assumed since no daily limits are imposed on intermittent and unexpected operations. The table below shows the calculated maximum daily emissions for each new source proposed in this application.

**Table 1C. Calculated Daily Emissions: S-15**

NO <sub>x</sub>	=	(	3.74	g/hp-hr)	(	1821	hp)	(	24	hr/day)	(lb/454g)	=	360.029	lb/day
CO	=	(	0.52	g/hp-hr)	(	1821	hp)	(	24	hr/day)	(lb/454g)	=	50.057	lb/day
POC	=	(	0.07	g/hp-hr)	(	1821	hp)	(	24	hr/day)	(lb/454g)	=	6.739	lb/day
PM <sub>10</sub>	=	(	0.01	g/hp-hr)	(	1821	hp)	(	24	hr/day)	(lb/454g)	=	0.963	lb/day
SO <sub>2</sub>	=	(	0.03	g/hp-hr)	(	1821	hp)	(	24	hr/day)	(lb/454g)	=	2.888	lb/day

**SOURCES S-16 & S-17****Annual Emissions:**Basis

- 50 hours/year/engine operation for non-emergency, reliability-related activities
- Maximum power 2206 bhp output rating for full-load, standby operation per engine
- Engine displacement 58.561 Liters ÷ 12 cylinders = 4.88 liters/cylinder
- Rated 1800 RPM, constant speed
- The engines each have the EPA Engine Family Name and are certified to meet the EPA Tier 2 standards. Abated emission factors were calculated using the manufacturer's emission testing data submitted to EPA for certification along with the abatement device manufacturer guarantees (with CARB verification for PM10).

**Table 2A. Emission Factor Assumptions: S-16 & S-17**

Pollutant	Unabated Emission Factor <sup>1</sup> (g/kW-hr)	Emission Factor Unabated <sup>2</sup> (g/bhp-hr)	Abatement Device Efficiency <sup>3</sup> (%)	Abated Emission Factor <sup>4</sup> (g/bhp-hr)
NO <sub>x</sub>	5.63	4.20	0%	4.20
CO	1.2	0.89	0%	0.89
POC	0.24	0.18	0%	0.18
PM <sub>10</sub>	0.15	0.11	85%	0.02

**References:**

1. US EPA Annual Certification Database for Vehicles, Engines, and Equipment: Nonroad Compression Ignition Engines, NRCI Certification Data (Model Years: 2011-Present.xlsx), Certification Level Steady-State Discrete Modal Test Results. <https://www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment>
2. Assume 1.341 hp/kw conversion factor.
3. CO and POC abatement efficiencies per manufacturer guarantee submitted by applicant & PM abatement efficiency per CARB Executive Order DE-14-005-06 dated March 27, 2020. (<https://ww3.arb.ca.gov/diesel/verdev/vt/stationary.htm>).
4. Abated emission factor = Unabated emission factor \* (1 – Abatement Device Efficiency %)

- The emission factor for SO<sub>2</sub> is from Chapter 3, Table 3.4-1 of the EPA Document AP-42, Compilation of Air Pollutant Emission Factors, which is based on full conversion of fuel sulfur to SO<sub>2</sub> and which will therefore be considered applicable to any diesel engine (sulfur content will be assumed to be the California limit of 0.0015 wt% sulfur) is calculated as follows. Note that the standard AP-42 sulfur emission factor formula is multiplied by 5 because the sulfur content of the natural gas used to develop the AP-42 factor is based on 2000 grains/MMSCF (vs. sulfur content in PUC quality natural gas of 1 grain/100 SCF):

$$\text{SO}_2: 8.09\text{E-}3 \text{ (\% S in fuel oil) lb/hp-hr} * 5 = 8.09\text{E-}3 \text{ (0.0015\% S) (454 g/lb) (5)} \\ = \mathbf{0.03 \text{ g/hp-hr}}$$

**Table 2B. Calculated Annual Emissions: S-16 & S-17**

Per Engine															Total										
NOx	=	(	4.20	g/hp-hr)	(	2206	hp)	(	50	hr/yr)	(lb/454g)	=	1020.396	lb/yr	=	0.510	TPY	*	2	engines	=	2040.792	lb/year	1.020	TPY
CO	=	(	0.89	g/hp-hr)	(	2206	hp)	(	50	hr/yr)	(lb/454g)	=	216.227	lb/yr	=	0.108	TPY	*	2	engines	=	432.454	lb/year	0.216	TPY
POC	=	(	0.18	g/hp-hr)	(	2206	hp)	(	50	hr/yr)	(lb/454g)	=	43.731	lb/yr	=	0.022	TPY	*	2	engines	=	87.462	lb/year	0.044	TPY
PM <sub>10</sub>	=	(	0.02	g/hp-hr)	(	2206	hp)	(	50	hr/yr)	(lb/454g)	=	4.859	lb/yr	=	0.002	TPY	*	2	engines	=	9.718	lb/year	0.004	TPY
SO <sub>2</sub>	=	(	0.03	g/hp-hr)	(	2206	hp)	(	50	hr/yr)	(lb/454g)	=	7.289	lb/yr	=	0.004	TPY	*	2	engines	=	14.578	lb/year	0.008	TPY

**Maximum Daily Emissions:**

Daily emissions are calculated to establish whether a source triggers the requirement for Best Available Control Technology (BACT) (10 lb/highest day total source emissions for any BACT pollutant). A full 24-hour day is assumed since no daily limits are imposed on intermittent and unexpected operations. The table below shows the calculated maximum daily emissions for each new source proposed in this application.

**Table 2C. Calculated Daily Emissions (Per Engine): S-16 & S-17**

NO <sub>x</sub>	=	(	4.20	g/hp-hr)	(	2206	hp)	(	24	hr/day)	(lb/454g)	=	489.790	lb/day
CO	=	(	0.89	g/hp-hr)	(	2206	hp)	(	24	hr/day)	(lb/454g)	=	103.789	lb/day
POC	=	(	0.18	g/hp-hr)	(	2206	hp)	(	24	hr/day)	(lb/454g)	=	20.991	lb/day
PM <sub>10</sub>	=	(	0.02	g/hp-hr)	(	2206	hp)	(	24	hr/day)	(lb/454g)	=	2.332	lb/day
SO <sub>2</sub>	=	(	0.03	g/hp-hr)	(	2206	hp)	(	24	hr/day)	(lb/454g)	=	3.499	lb/day

### **PLANT CUMULATIVE INCREASE**

Cumulative Increase is defined as the sum of all emissions increases authorized by authorities to construct and permits to operate issued to a facility since the applicable cumulative increase baseline date, which is April 5, 1991 for POC, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and CO, and August 31, 2016 for PM<sub>2.5</sub>. The cumulative increase for the facility is summarized in the table below.

**Table 3. Calculated Plant Cumulative Increase (tons/year)**

Pollutant	EXISTING			PROPOSED				TOTAL
	A/N 17659	A/N 22810	Subtotal	A/N 30654			Subtotal	
	S-5 to S-8	S-9 to S-11		S-15	S-16	S-17		
NO <sub>x</sub>	0.124	1.854	1.978	0.375	0.510	0.510	1.395	3.373
CO	0.144	0.252	0.396	0.052	0.108	0.108	0.268	0.664
POC	0.064	0.096	0.160	0.007	0.022	0.022	0.051	0.211
PM <sub>10</sub>	0.000	0.009	0.009	0.001	0.002	0.002	0.005	0.014
SO <sub>2</sub>	0.000	0.000	0.000	0.003	0.004	0.004	0.011	0.011

### **STATEMENT OF COMPLIANCE**

#### **Regulation 2 - Permits, Rule 1 – General Requirements**

##### ***CEQA (Section 2-1-311)***

The project is considered to be ministerial under the BAAQMD's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors as specified in the BAAQMD Engineering Division Permit Handbook Chapter 2.3.1 (Stationary Diesel Engines) and therefore is not discretionary as defined by CEQA.

##### ***Public Notice, Schools (Section 2-1-412)***

A new or modified source located within 1,000 feet of the outer boundary of a K-12 school site which results in the increase in emissions of a toxic air contaminant in Table 2-5-1 of Regulation 2, Rule 5 New Source Review of Toxic Air Contaminants shall prepare and distribute a public notice in accordance with subsections 412.1 and 412.2 of Regulation 2, Rule 1 General Requirements.

> This application proposes a new source of TACs and is located within 1,000 feet of the outer boundary of the nearest K-12 school (with more than 12 children enrolled). Therefore, public notification pursuant to Reg. 2-1-412 is required. Mission Early

College High is an active, K-12 school located within 1,000 feet of the proposed source with more than 12 students enrolled. There are no other schools within a ¼-mi. radius of the proposed project. The school public notice will therefore be distributed on 11/4/2020 to the parents and guardians of the students of the following schools as well as to addresses located within 1,000 feet of the facility:

Mission Early College High, 3000 Mission College Blvd, Santa Clara 95054

## **Regulation 2 - Permits, Rule 2 – New Source Review**

In accordance with District Policy<sup>1</sup>, the standard potential to emit for emergency engines is based on 150 hr/yr operation (50 hr/yr non-emergency plus 100 hr/yr emergency purposes).

The assumption of 100 hours per year of emergency operation is used to determine the applicability of certain District permitting regulations, such as New Source Review and Title V Major Facility Review. The District Policy is not used to determine the amount of emissions offsets required for a project that triggers New Source Review or for PSD. It is also not applicable apply for purposes of the Toxics New Source Review requirements of District Reg. 2-5 (per Regulation 2-5-111).

Therefore, the potential to emit for the emergency engines in this application (S-15, S-16 & S-17) is based on 150 hr/yr/engine operation (50 hr/yr non-emergency plus 100 hr/yr emergency purposes). For all other permitted emergency engines, the potential to emit is based on the number of permitted hr/yr/engine for non-emergency plus 100 hr/yr/engine for emergency purposes.

Table 4, below, shows the calculated facility-wide potential to emit NO<sub>x</sub>.

**Table 4. Facility-Wide Potential to Emit – NO<sub>x</sub>**  
**(Per BAAQMD Policy: Calculating PTE for Emergency Backup Power Generators)**

Pollutant	Existing S-5 to S-11	Proposed			New Total
		S-15	S-16	S-17	
NO <sub>x</sub>	9.346	1.125	1.531	1.531	13.532
CO	1.193	0.156	0.324	0.324	1.998
POC	0.489	0.021	0.066	0.066	0.641
PM <sub>10</sub>	0.039	0.003	0.007	0.007	0.057
SO <sub>2</sub>	0.008	0.009	0.011	0.011	0.039

### ***Best Available Control Technology Requirement (Section 2-2-301)***

Any new source is required to use Best Available Control Technology (BACT) to control emissions of any BAAQMD BACT pollutants [precursor organic compounds (POC), non-precursor organic compounds (NPOC), oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, PM<sub>2.5</sub>, and/or carbon monoxide (CO)] that have the potential to emit 10 or more pounds each on any day.

<sup>1</sup> BAAQMD Policy: Calculating Potential to Emit for Emergency Backup Power Generators. Approval date June 3, 2019. (Referred to as “District Policy” in this engineering evaluation).

> Based on the emission calculations presented in Table 1C, BACT is triggered for NO<sub>x</sub> and CO for S-15 since the maximum daily emissions per new source are each greater than 10 lb/day. Based on the emission calculations presented in Table 2C, BACT is triggered for NO<sub>x</sub>, CO and POC for S-16 & S-17 since the maximum daily emissions per new source are each greater than 10 lb/day.

BACT is defined as the most stringent emissions limitation, control device, or control technique that (i) has been achieved in practice at other similar sources and/or (ii) is technologically feasible and cost-effective. See Reg. 2-2-202. To determine what level of control constitutes BACT for the emergency backup diesel engines, the BAAQMD reviewed available control technologies that can be effective at controlling NO<sub>x</sub> from these sources.

#### *Control Technology Review*

Several control technologies can reduce NO<sub>x</sub>, CO and POC emissions from emergency backup diesel engines. These technologies have been divided into three categories: Clean Fuels, Combustion Technologies, and Post-Combustion Technologies.

#### *Clean Fuel Technology*

The use of diesel fuel with a low nitrogen content reduces the amount of NO<sub>x</sub> formed during combustion. The less nitrogen available in the fuel, the less that can be converted to NO<sub>x</sub> upon combustion. Diesel fuel producers are not required to remove nitrogen from the fuel specifically for NO<sub>x</sub> reduction purposes. But they are required to remove sulfur in order to comply with regulatory mandates, and the hydro-treating technique they use to remove the sulfur also removes a majority of the nitrogen. As a result, using ultra-low-sulfur diesel fuel will provide benefits in reducing NO<sub>x</sub> emissions as well as reducing sulfur dioxide emissions. Ultra-low sulfur diesel is required to be used by the California Air Resources Board (CARB) and is therefore achieved in practice for these engines.

#### *Combustion Technologies*

NO<sub>x</sub>, CO and POC emissions can be minimized by optimizing the engines' combustion process using techniques such as injection timing retard, preignition chamber combustion, air-to-fuel ratio adjustments, and derating. These combustion characteristics are determined by the design of the engine, which is dictated by the manufacturer and cannot be controlled by the end user. The end user can reduce emissions by using the cleanest engines available, however. Engines are certified to meet progressively more stringent emissions performance standards using EPA's "Tier" system, with higher-tier engines representing more stringent levels of emissions control. For the size of engines that will be used for this project, the most stringent level of emissions control that can be achieved using combustion controls is Tier 2.<sup>2</sup> The use of Tier 2 engines is achieved in practice.

#### *Post-Combustion Technologies*

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<sup>2</sup> EPA's diesel emission tiers range from Tier 0 through Tier 4. The Tier 4 standards require catalytic control devices, which are addressed below. For diesel engines over 750 horsepower, there are no Tier 3 standards. The next most stringent set of standards for this size category after Tier 2 is Tier 4, which requires catalytic control devices. See California Air Resources Board, Non-Road Diesel Engine Certification Tier Chart, available at: <https://ww2.arb.ca.gov/resources/documents/non-road-diesel-engine-certification-tier-chart-pdf>. The most stringent tier that can be achieved with combustion controls is therefore Tier 2 for this size category.



Currently, the most effective and prevalent post combustion technologies used to abate NO<sub>x</sub>, CO and POC rely on the use of catalysts. For NO<sub>x</sub> reduction, catalytic technology can come in the form of a selective catalytic reduction unit, lean-NO<sub>x</sub> catalyst, or NO<sub>x</sub> adsorber. For POC and CO, reduction is typically achieved through an oxidation catalyst. For each of these technologies, the catalyst is used to lower the heat of reaction that is required for the breakdown and/or conversion of the target pollutants. The catalyst needs to be at a relatively high temperature in order to activate and become effective, however.<sup>3</sup> With emergency standby generators, the catalyst would not reach its effective temperature during short-duration operations associated with periodic testing and maintenance, which is primarily how these engines will be operated. As a result, add-on catalytic control devices are not normally required for emergency standby generators, and they are therefore not “achieved in practice” for purposes of the BACT requirement for this type of source.

Catalytic control devices would become effective if and when the engines are operated for longer periods in the case of a power outage. Emergency operation will be infrequent, however, and it is not expected to last for a significant amount of time when it does occur. As a result, the emission reduction benefit from having a catalytic control device would be fairly modest and would not be justified under the BAAQMD’s BACT regulations given the costs involved. Studies that have evaluated the additional costs and emission reduction benefits that would be involved in implementing catalytic control technologies on emergency backup engines have shown that the cost would be in the range of \$66,000 to \$682,000 per ton of emission reduction benefit. This cost per ton greatly exceeds the BAAQMD’s BACT cost-effectiveness threshold of \$17,500 per ton. Catalytic control devices are therefore not required as BACT for this project.

#### *BACT Determination*

From the analysis of the various technologies that could be implemented to reduce CO, POC, and/or NO<sub>x</sub> for each engine type, the BAAQMD has concluded that the use of ultra-low sulfur diesel fuel and EPA Tier 2 certified engines are achieved-in-practice control technologies and are technologically feasible and cost-effective. These control technologies are therefore required as BACT. Engines being used for this project are certified to meet the EPA Tier 2 emissions standard, and the applicant will be required by CARB regulations to use ultra-low-sulfur diesel fuel. Therefore, the project complies with the BACT requirements under Regulation 2-2-301 for all applicable pollutants.

*Note on BAAQMD BACT Handbook:* BACT for NO<sub>x</sub>, POC and CO for the source is derived from the CARB ATCM Standards and set forth in the *BAAQMD BACT/TBACT Workbook for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump (Class: ≥ 50 BHP Output), Document # 96.1.3, Revision 7 dated 12/22/2010*. The more restrictive BACT 1 standard is not applicable to the engine because it will be limited to operation as emergency standby engine. The BACT 2 emission limits for NO<sub>x</sub>, CO and POCs are the CARB ATCM standards at the applicable horsepower rating (for engines rated > 750 HP). The typical technology specified for BACT 2 is any engine certified or verified to achieve the applicable standard.

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<sup>3</sup> See Sacramento Metropolitan Air Quality Management District BACT Determination No. 172 (April 10, 2018), available at:

[www.airquality.org/StationarySources/Documents/IC%20Engine%20Compression%20Standby%20Diesel%20Fired%20BACT%20172.pdf](http://www.airquality.org/StationarySources/Documents/IC%20Engine%20Compression%20Standby%20Diesel%20Fired%20BACT%20172.pdf); California Air Resources Board, Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Airborne Toxic control Measure for Stationary Compression Ignition Engines (Sept. 2010), available at [www.arb.ca.gov/regact/2010/atcm2010/atcmisor.pdf](http://www.arb.ca.gov/regact/2010/atcm2010/atcmisor.pdf).



According to the emission data submitted to EPA for the S-15, S-16 & S-17 engine families, emission rates are below the applicable BACT 2 emission limits.

**Table 5. BACT 2 Analysis Summary: S-15**

<b>BACT Pollutant Triggered</b>	<b>BACT 2 Limit &gt; 750 HP (g/bhp-hr)</b>	<b>Emission Rate per Engine (g/bhp-hr)</b>
NO <sub>x</sub>	4.56 *	3.74
CO	2.6	0.52

\*BACT 2 Emission Limits Based on CARB ATCM, Maximum Engine Power: kW > 560 ( HP > 750); assume 95% NO<sub>x</sub> and 5% NMHC (POC) allocation for the combined NMHC+NO<sub>x</sub> emissions standard value.

**Table 6. BACT 2 Analysis Summary: S-16 & S-17**

<b>BACT Pollutant Triggered</b>	<b>BACT 2 Limit &gt; 750 HP (g/bhp-hr)</b>	<b>Emission Rate per Engine (g/bhp-hr)</b>
NO <sub>x</sub>	4.56 *	4.20
CO	2.6	0.89
POC	0.24	0.02

\*BACT 2 Emission Limits Based on CARB ATCM, Maximum Engine Power: kW > 560 ( HP > 750); assume 95% NO<sub>x</sub> and 5% NMHC (POC) allocation for the combined NMHC+NO<sub>x</sub> emissions standard value.

#### ***Offset Requirements, POC and NO<sub>x</sub> (Section 2-2-302)***

This section establishes emission offset requirements for POC and NO<sub>x</sub> at facilities that will have the potential to emit more than 10 tons per year of POC or NO<sub>x</sub>. If the facility will have the potential to emit more than 10 tons per year but less than 35 tons per year of NO<sub>x</sub> or POC after the new or modified source is constructed, offsets must be provided at a 1:1 ratio for any un-offset cumulative increase in emissions at the facility. These offsets shall be provided by the District's Small Facility Banking Account (SFBA) unless the applicant owns offsets.

> The facility has the potential to emit 13.532 tons per year of NO<sub>x</sub> based on District Policy (Table 4). However, the District Policy is not used to determine the amount of emissions offsets required for a project that triggers New Source Review. The *actual* project emissions of NO<sub>x</sub> based on permitted, non-emergency operation are 3.373 tons per year (Table 3). As this is below 10 tons per year, offsets are not triggered.

#### ***Offset Requirement, PM<sub>2.5</sub>, PM<sub>10</sub> and Sulfur Dioxide (2-2-303)***

This section establishes emission offset requirements for PM<sub>2.5</sub>, PM<sub>10</sub> and Sulfur Dioxide from new or modified sources located at facility with the potential to emit 100 tons per year of PM<sub>2.5</sub>, PM<sub>10</sub> or Sulfur Dioxide.

> Since the potential to emit PM<sub>2.5</sub>, PM<sub>10</sub> or Sulfur Dioxide at the facility where this engine operates are each below 100 tons per year, the application is not subject to the offset requirements of *Regulation 2-2-303*.

***Prevention of Significant Deterioration (PSD) (2-2-304 through 307)***

These sections establish standards for PSD BACT requirements, PSD source impact analysis requirements, and PSD additional impacts analysis requirements.

> This facility will not emit 100 tons or more per year of any PSD pollutant and, therefore, is not a major PSD facility and is not subject to any of the PSD requirements in Regulations 2-2-304 through 2-2-307 per Regulation 2-2-224.

***NAAQS Protection Requirement (2-2-308)***

Per Regulation 2-2-308, if a project will result in a significant net increase in emissions of CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, or lead, the applicant must demonstrate that the emissions will not cause or contribute to any exceedance of the National Ambient Air Quality Standards for these pollutants.

> This project will not involve any significant net emissions increases, as defined in Regulation 2-2-227.2.

***Publication of Notice and Opportunity for Public Comment (2-2-404)***

If an application involves a major facility, a PSD project, or an increase in CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, or lead in an amount that is significant as defined in Regulation 2-2-227.2, the BAAQMD must prepare and distribute a public notice and provide an opportunity for public comment in accordance with Regulation 2-2-404 (Publication of Notice and Opportunity for Public Comment).

> This application does not involve a major facility or PSD project, and it will not increase emissions above any of the significance levels defined in Regulation 2-2-227.2.

**Regulation 2- Permits, Rule 5 New Source Review of Toxic Air Contaminants**

This rule requires that any new or modified source of toxic air contaminant (TAC) emissions subject to Authority to Construct or Permit to Operate requirements shall be evaluated for potential public exposure and health risk and meet the applicable standards and administrative requirements, as specified in Sections 300 and 400, respectively.

> All of the proposed engines will emit diesel exhaust particulate matter, which is a TAC under BAAQMD Regulations. BAAQMD Regulation 2, Rule 5 specifies that diesel exhaust particulate matter will be used as a surrogate for all TAC emissions from diesel-fueled compression-ignition internal combustion engines, as this is the principal driver of the health risk associated with this type of equipment. The calculated emissions increase of diesel exhaust particulate matter associated with the project is summarized in the table below. The project includes no related NSR applications for new or modified sources permitted within the previous three-years (per BAAQMD Reg 2-5-216).

**Table 7. Project incremental increase in diesel exhaust particulate matter**

Source	PM Emission Factor, Abated (g/bhp-hr)	Horsepower	Annual Usage (hours/year)	Diesel PM Emissions (lb/year)
S-15	0.01	1821	50	2.006
S-16	0.02	2206	50	4.859
S-17	0.02	2206	50	4.859
<b>Total</b>				<b>11.724</b>
<b>HRA Trigger (Chronic)</b>				<b>0.26</b>

Regulation 2-5-402 requires a Health Risk Assessment (HRA) if TAC emissions exceed the screening thresholds set forth in Table 2-5-1 in Regulation 2, Rule 5. For this project, emissions of diesel particulate matter exceed the Table 2-5-1 screening threshold for chronic risk.

The BAAQMD therefore undertook a refined HRA<sup>4</sup> to evaluate the potential chronic carcinogenic and non-carcinogenic health risks from diesel PM emissions from this project. The HRA evaluated risks to workers and to residents in the vicinity of the project.

The Health Risk Assessment evaluated chronic health risks both from the individual diesel engines and from the project as a whole. The evaluation assumed that each engine would operate up to the maximum 50 hours per year allowed for testing and maintenance purposes. Emissions from emergency operations were not included because they are exempt from Regulation 2, Rule 5 under Section 2-5-111.

For the project as a whole, the HRA analysis estimated the health risk resulting from TAC emissions from the non-emergency operation of the standby emergency diesel generator engines listed in Table 7 at this facility. Results from the HRA indicate that the maximum project cancer risk is **2.2 in a million** and the maximum chronic hazard index is **0.00065**. The HRA results demonstrate that the total project risk is below the limits of 10 in a million for carcinogenic risk and a chronic hazard index of 1.0 for non-carcinogenic risk, as set forth in Sections 2-5-302 and 2-5-303.

In addition, while not triggered, all engines meet the Best Available Control Technology for Toxics (TBACT) standard. Per *BAAQMD BACT/TBACT Workbook for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump (Class:  $\geq 50$  BHP Output)*, Document # 96.1.3, Revision 7 dated 12/22/2010, TBACT for PM<sub>10</sub> is defined as 0.15 g/bhp-hr, achieved via any engine or technology demonstrated, certified or verified to achieve the applicable standard. The engines listed in Table 7 have an abated PM<sub>10</sub> emission factor of 0.01 to 0.02 g/bhp-hr, which is well-below the TBACT standard.

Compliance with Regulation 2-5 is satisfied.

<sup>4</sup> This project does not qualify for the HRA Streamlining Policy because the facility is a data center. Therefore, a refined HRA was required.

## **Regulation 2- Permits, Rule 6 Major Facility Review**

*Regulation 2 Rule 6* implements the operating permit requirements of Title V of the federal Clean Air Act as amended in 1990. The rule applies to major facilities, Phase II acid rain facilities, subject solid waste incinerator facilities and any facility in a source category designated by the Administrator of the EPA in a rulemaking as requiring a Title V permit. The rule also provides a means by which facilities can avoid the Title V or other requirements by limiting their potential to emit. A major facility is defined in Section 2-6-212 as one that has the potential to emit 100 tons per year of any regulation air pollutant as defined in Section 2-6-222, or that has the potential to emit 10 tons per year of a single hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants.

> The project's potential to emit criteria pollutants was calculated in accordance with District Policy and presented previously in Table 4; all emissions are below 100 tons per year per pollutant threshold for a major facility. In addition, the potential to emit toxics was calculated in accordance with Regulation 2 Rule 5 and presented previously in Table 7; emissions are well below 10 tons per year single HAP threshold for a major facility. The facility is not a Phase II Acid Rain Facility (2-6-217) or a subject solid waste incinerator facility (Section 2-6-229), or a facility defined in a source category defined by EPA requiring a Title V permit. Therefore, Title V requirements, as implemented by Regulation 2, Rule 6) are not triggered.

## **Regulation 6 - Particulate Matter, Rule 1 - General Requirements**

### ***Ringelmann No. 1 Limitation (6-1-301)***

Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree.

> Since S-15, S-16 and S-17 are EPA-certified engines with DPF abatement and are expected to emit low amount of PM<sub>10</sub>, they are each expected to comply with *Regulation 6-1-301* pending a regular inspection.

### ***Opacity Limitation (6-1-302)***

Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in any hour an emission equal to or greater than 20% opacity as perceived by an opacity-sensing device, where such device is required by BAAQMD regulations.

> Since S-15, S-16 and S-17 are EPA-certified engines with abatement and are expected to emit low amounts of PM<sub>10</sub>, they are expected to comply with *Regulation 6-1-302* pending a regular inspection.

### ***Visible Particles (Section 6-1-305)***

A person shall not emit particles which are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles.

> Since S-15, S-16 and S-17 are EPA-certified engines with abatement and are expected to emit low amounts of PM<sub>10</sub>, they are not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to be in compliance with *Regulation 6-1-305* pending a regular inspection.

***Particulate Weight Limitation (Section 6-1-310)***

A person shall not emit from any source particulate matter in excess of 0.15 grains/dscf of exhaust gas volume.

> The PM emission rate from engine S-15 is 0.01 grams/bhp-hr, which results in an outlet grain loading of about 0.001 grains/dscf based on each engine set's specifications (1821 bhp, 10,005.8 acfm exhaust flow, 806.6° F emissions stack temperature). The PM emission rate from each engine S-16 and S-17 is 0.02 grams/bhp-hr, which results in an outlet grain loading of about 0.002 grains/dscf based on each engine set's specifications (2206 bhp, 11,734.1 acfm exhaust flow, 756.6° F emissions stack temperature). The PM emission rates for the project are much less than the 0.15 grains/dscf limit and is in compliance with *Regulation 6-1-310.1*. Note that the TSP concentration limits set forth in Regulation 6-1-301.2 do not apply because the PTE for PM per source is below the 1000 kg per year applicability threshold.

**Regulation 9 – Inorganic Gaseous Pollutants, Rule 1 Sulfur Dioxide**

S-15, S-16 and S-17 are subject to the following sections of Regulation 9, Rule 1 and will comply with all sections by burning Ultra Low Sulfur Diesel with a sulfur content of 15 ppm, which results in less than 1 ppmv of SO<sub>2</sub> in the exhaust gas.

***Limitations on Ground Level Concentrations (Section 9-1-301)***

Sulfur Dioxide emissions shall not result in ground level concentrations in excess of 0.5 ppm continuously for 3 consecutive minutes or 0.25 ppm averaged over 60 consecutive minutes or 0.05 ppm averaged over 24 hours.

***General Emission Limitation (Section 9-1-302)***

A gas stream containing Sulfur Dioxide shall not contain sulfur dioxide in excess of 300 ppm (dry).

***Fuel Burning (Liquid and Solid Fuels) (Section 9-1-304)***

The sulfur content of liquid fuel burned shall not exceed 0.5% by weight.

**Regulation 9 – Inorganic Gaseous Pollutants, Rule 8 NO<sub>x</sub> and CO from Stationary Internal Combustion Engines**

***Exemptions (Section 9-8-110)***

Section 110.5 exempts emergency standby engines from the requirements of Sections 9-8-301 through 305, 501 and 503.

***Emergency Standby Engines, Hours of Operation (Section 9-8-330)***

S-15, S-16 and S-17 are subject to the requirements of *Regulation 9-8-330* which limits reliability related operation of the engines to 50 hours per year per engine.

> Permit Conditions for S-15, S-16 and S-17 will include an operating limit that complies with this standard.

***Monitoring and Records (Section 9-8-500)***

S-15, S-16 and S-17 is subject to the reporting requirements of Sections 502 and 530.

> Permit Conditions for S-15, S-16 and S-17 will include reporting requirements that meet this standard.

## Regulation 10 – Standards of Performance for New Stationary Sources

### *New Source Performance Standards (NSPS)*

Any new or modified source is required to comply with *Regulation 10, Standard of Performance for New Stationary Sources* – which is Title 40, Part 60 of the Code of Federal Regulation incorporated by reference. According to §60.4200(a)(1), the provisions of 40 CFR Part 60 Subpart IIII *Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE)* are applicable to (1) manufacturers of stationary CI ICEs with a displacement of less than 30 L/cylinder where the model year is 2007 or later for non-fire pump engines, and (2) owners and operators of stationary CI ICE that commence construction after July 11, 2005 and are manufactured after April 1, 2006 (and are not fire pump engines).

§60.4202 specifies emergency engine emissions standards for manufacturers of stationary CI ICEs. Per §60.4202(a)(2), stationary CI ICE manufacturers must certify their 2007 model year and later CI ICEs with a maximum engine power greater than 50HP but less than or equal to 3,000 HP and displacement of less than 10 liters per cylinder that are not fire pump engines to the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants (beginning in model year 2017).

The proposed engines S-15, S-16 and S-17 satisfy the emission standards contained in 40 CFR 112(a) Table 1 for engines rated over 560 kW and for model years effective in 2006, as summarized below.

**Table 8. Engine Emission Rates vs. 40 CFR 89.112(a) Emission Standards**

Pollutant	40 CFR 89.112(a) Table 1 Emission Standard (g/kW-hr)	Manufacturer's Performance Data Sheet Emission Rate S-15 (g/kW-hr), Abated	Manufacturer's Performance Data Sheet Emission Rate S-16 & S-17 (g/kW-hr), Abated
NMHC + NO <sub>x</sub>	6.4	5.11	5.87
CO	3.5	0.7	1.2
PM	0.20	0.009	0.023

In lieu of the above standards, Manufacturers may elect to set FELs meeting 40 CF 89.112(d) Table 2. The proposed engines S-15, S-16, and S-17 meet 40 CFR 89.112(d) Table 2 because they are part of the manufacturer-established Family Emission Limits (FELs) for EPA Engine Families LCPXL32.0NZS & LCPXL78.1NZS. The Table 2 Upper limit FELs for engine model years after 2006 with power ratings exceeding 560 kW are 10.5 g/kW-hr for NMHC + NO<sub>x</sub> and 0.54 g/kW-hr for PM, which are met by both Engine Families. Also, S-15, S-16 and S-17 are exempt from the smoke emission standards of 40 CFR 89.113 because the engines are assumed to be constant-speed (exemption 89.113(c)(3)).

§60.4206 requires that the owner/operator of a stationary CI ICE meet the applicable emission standards specified in §60.4205 over the entire life of the engine.

> The owner/operator is expected to comply with this requirement.

§60.4207 specifies fuel requirements that must be met for owners/operators of a stationary CI ICE engine subject to Subpart III. Effective October 1, 2010, engines with a displacement less than 30 L/cylinder that use diesel fuel must meet the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. 40 CFR 80.510(b) specifies standards of 15 ppm maximum sulfur content for nonroad diesel fuel and a cetane index of 40 or aromatic content of 35%.

> The owner/operator is expected to comply with this requirement because CARB allows only ultra-low sulfur diesel to be used for stationary engines in California.

§60.4209 specifies the monitoring requirements for owner/operators of stationary CI ICEs: emergency engines not meeting emission standards must be equipped with a non-resettable hour meter prior to startup, and DPFs (if equipped) must be installed with a backpressure monitor that notifies the owner/operator when high backpressure limit is approached. In addition, monitoring requirements of §60.4211 must be met (see next subsection, below).

> Sources S-15, S-16, and S-17 meet the standards applicable to emergency engines and will be equipped with a non-resettable hour meter prior to startup of the engines (even though they are not specifically required to do so per this section). Also, all engine DPFs will be installed with a backpressure monitor. Standard permit conditions will be imposed to ensure compliance with these requirements.

§60.4211 requires (a) owners/operators operate and maintain the engine and control device according to manufacturer's emission-related written instructions, change only those emission-related settings that are permitting by the manufacturer, and meet the requirements of 40 CFR 89, 94, and/or 1068 if applicable. In addition, §60.4211(c) requires owner/operators of 2007 model year and later CI ICEs complying with §60.4205(b) standards to purchase a certified engine, installed and configured according to the manufacturer's emission-related specifications. Lastly, §60.4211(f) specifies emergency engine operation for non-emergency purposes are limited to 50 hours per year (up to 100 hours per year for certain situations) and emergency use is unlimited.

> The owner/operator is expected to comply with the compliance requirements outlined in §60.4211. As previously discussed, the applicable requirements of 40 CFR 98 are met. All proposed engines are part of certified EPA Engine Families LCPXL32.0NZS & LCPXL78.1NZS. Due to the CARB ATCM limiting non-emergency use to 50 hours per year, the 100 hours per year provision does not apply.

§60.4214 specifies notification, reporting and recordkeeping requirements for owners/operators of CI ICEs.

> The proposed engines S-15, S-16 and S-17 are not subject to initial notification requirements of §60.4214(b) because they are emergency engines and meet the standards applicable to non-emergency engines in the applicable model year. Per §60.4214(b), the owner/operator will be required to keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the



high backpressure limit of the engine is approached. The owner/operator will be expected to comply with the annual reporting requirements of §60.4214(d) if triggered.

§60.4218 specifies the general provisions in 40 CFR 60.1 to 60.19 applicable.

> The owner/operator is expected to comply with these provisions.

## **Regulation 11 – National Emission Standards for Hazardous Air Pollutants**

### ***National Emission Standards for Hazardous Air Pollutants (NESHAP)***

There are no subparts under 40 CFR Part 61 that apply to ICEs. Therefore, this regulation does not apply to any of the proposed sources in this application.

40 CFR Part 63 Subpart ZZZZ establishes NESHAPs for Stationary Reciprocating Internal Combustion Engines (RICEs). Both area and major sources of RICEs are subject to Subpart ZZZZ. The proposed data center constitutes an area source of HAPs because the potential to emit any single/combined HAP are below the 10/25 tons per year threshold for major sources. The proposed sources S-15, S-16 and S-17 are new stationary RICE CI at an area source subject to (and compliant with) regulations under 40 CFR Part 60 Subpart IIII. Therefore, per 40 CFR 63.6590(c)(1), no further requirements apply for the proposed engines under Subpart ZZZZ.

## **Other Regulations**

The BAAQMD is charged with enforcing the requirements of California's Air Toxic Control Measure for Stationary Compression Ignition Engines *Title 17, California Code of Regulations, Section 93115* for the purpose of reducing diesel particulate matter (PM) and criteria pollutant emissions from stationary diesel-fueled compression ignition (CI) engines.

### ***Airborne Toxic Control Measure (ATCM) for Emergency Standby Diesel-Fueled CI Engines (>50 bhp)***

Subsection 93115.6(a)(3)(A)(1)(a) sets forth Emission Standards for new stationary emergency standby diesel fueled compression ignition engines with maximum engine power greater than 750 HP.

> All generators are subject to and meet the requirement of this section of the ATCM as shown in the table below:

**Table 9. Engine Emission Rates vs. ATCM Emission Standards**

<b>Pollutant</b>	<b>ATCM Emission Standards (g/bhp-hr)</b>	<b>Manufacturer's Performance Data Sheet Emission Rate S-15 (g/bhp-hr), Abated</b>	<b>Manufacturer's Performance Data Sheet Emission Rate S-16 &amp; S-17 (g/bhp-hr), Abated</b>
PM	<b>0.15</b>	0.01	0.02
NMHC + NO <sub>x</sub>	<b>4.8</b>	3.81	4.38
CO	<b>2.6</b>	0.52	0.89

*Subsection 93115(a)(3)(A)(1)(b) requires that new stationary emergency standby diesel-fueled engines (>50 bhp) be certified to the emission standards as specified in 40 CFR, Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.*

> All generators have been certified to meet EPA Tier 2 standards and meets 40 CFR Part 60 Subpart IIII; therefore, they comply with this section of the ATCM.

*Subsection 93115(a)(3)(A)(1)(c) limits the non-emergency operation of 50 hours/year for maintenance and testing.*

> Permit Conditions for all generators will limit non-emergency operation to 50 hours/year/engine and as such, will comply with this section of the ATCM.

### **PUBLIC COMMENTS RECEIVED**

Standard BAAQMD permitting procedures stipulate that all complete applications undergo a 10-Day Public Participation Period (PPP). During this time, members of the public may submit comments on application materials. During the 10-day PPP for this application, no comments were received on the application materials.

### **PERMIT CONDITIONS**

Sources S-15, S-16 and S-17 will be subject to Permit Condition Numbers 22850 and 27335. All conditions are shown below.

#### *Condition No. 22850*

- 1. The owner/operator shall not exceed 50 hours per year per engine for reliability-related testing.*

*[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]*

- 2. The owner/operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited.*

*[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary*

*CI Engines]*

3. *The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.*

*[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]*

4. *Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.*

- a. Hours of operation for reliability-related activities (maintenance and testing).*
- b. Hours of operation for emission testing to show compliance with emission limits.*
- c. Hours of operation (emergency).*
- d. For each emergency, the nature of the emergency condition.*
- e. Fuel usage for each engine(s).*

*[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]*

5. *At School and Near-School Operation:*  
*If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:*

*The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:*

- a. Whenever there is a school sponsored*

- activity (if the engine is located on school grounds)*
- b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session.*

*"School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, athletic field, or other areas of school property but does not include unimproved school property.*

*[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]*

*Condition No. 27335*

1. The owner/operator shall abate each generator source by a properly maintained and operated abatement device (Miratech LTR Diesel Oxidation Catalyst with Diesel Particulate Filter) during all times the engine is in operation. [Basis: Cumulative Increase]
2. The owner/operator shall, for each generator source, properly install and operate a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 93115.10 (d)(2)]

## **RECOMMENDATION**

The District has reviewed the material contained in the permit application for the proposed project and has made a preliminary determination that the project is expected to comply with all applicable requirements of District, state and federal air quality-related regulations. The preliminary recommendation is to issue an Authority to Construct for the equipment listed below. However, the proposed source will be located within 1,000 feet of a school, which triggers the public notification requirements of District Regulation 2-1-412. After the comments are received and reviewed, the District will make a final determination on the permit.

I recommend that the District initiate a public notice and consider any comments received prior to taking any final action on issuance of an Authority to Construct/Permit to Operate for the following sources:

- S-15: Emergency Standby Generator Set: Diesel Engine, Make Caterpillar, Model C32, Model Year 2020, EPA Engine Family LCPXL32.0NZS, Rated 1821 BHP. Abated by A-15 Miratech LTRV36-36-12-XR1DOC/DPF. Emissions at P-15 Stack.**
- S-16: Emergency Standby Generator Set: Diesel Engine, Make Caterpillar, Model 3512C, Model Year 2020, EPA Engine Family LCPXL78.1NZS, Rated 2206 BHP. Abated by A-16: Miratech LTRV48-43-14-XR1 DOC/DFP. Emissions at P-16 Stack.**
- S-17: Emergency Standby Generator Set: Diesel Engine, Make Caterpillar, Model 3512C, Model Year 2020, EPA Engine Family LCPXL78.1NZS, Rated 2206 BHP. Abated by A-17: Miratech LTRV48-43-14-XR1 DOC/DFP. Emissions at P-17 Stack.**

By: Caryn Quist      Date: 10/14/20  
Caryn Quist, P.E.  
Air Quality Engineer